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FIG. 1

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FIG. 2

FIG. 3

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FIG. 4

FIG. 5

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FIG. 6

FIG. 7

TITLE: Methods and Systems for Graphics Processing in a Medical Imaging System
INVENTOR: Erik N. Steen
S/N: 10/ 719,773 DOCKET: 135273 (AT 12553-01042)
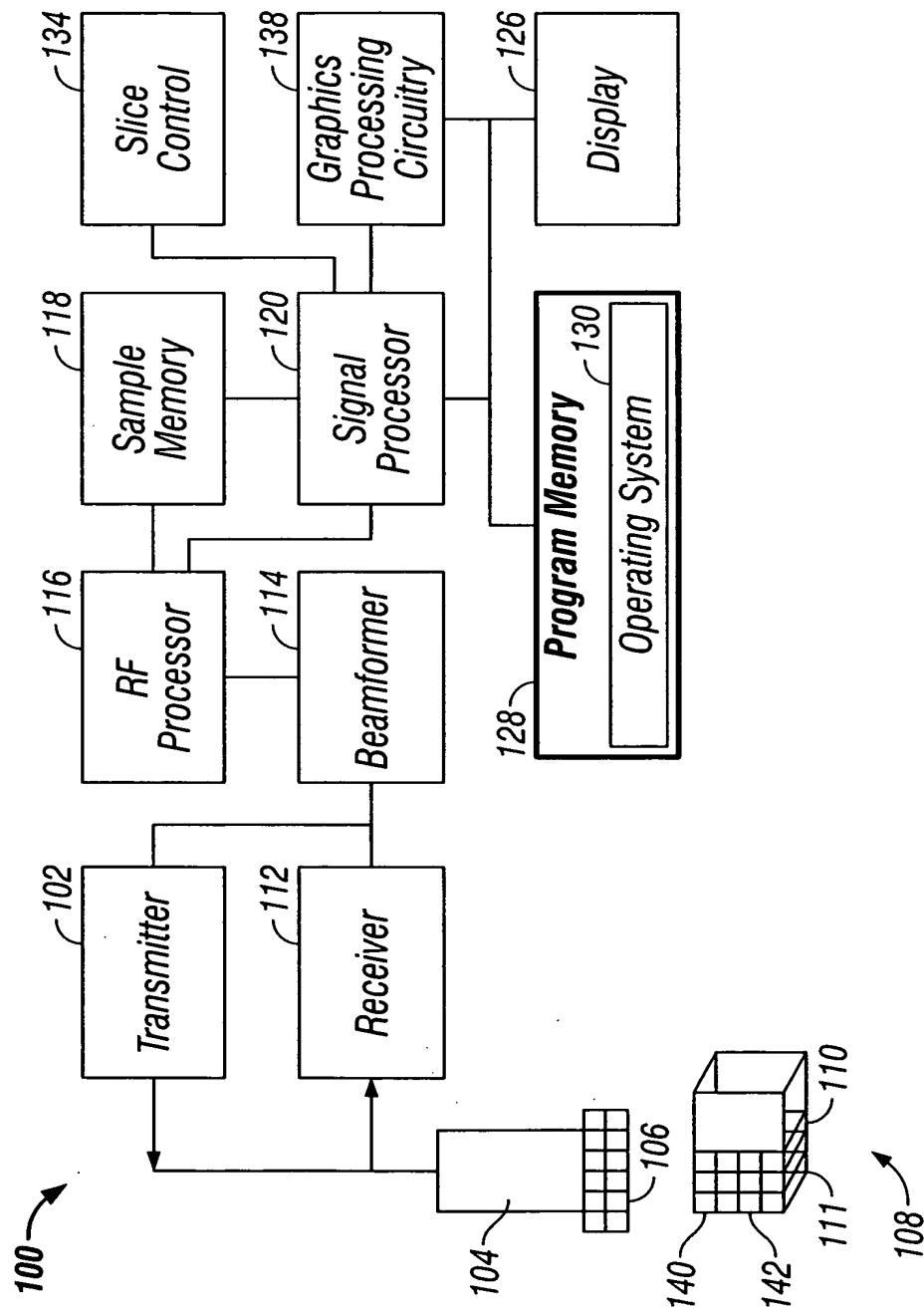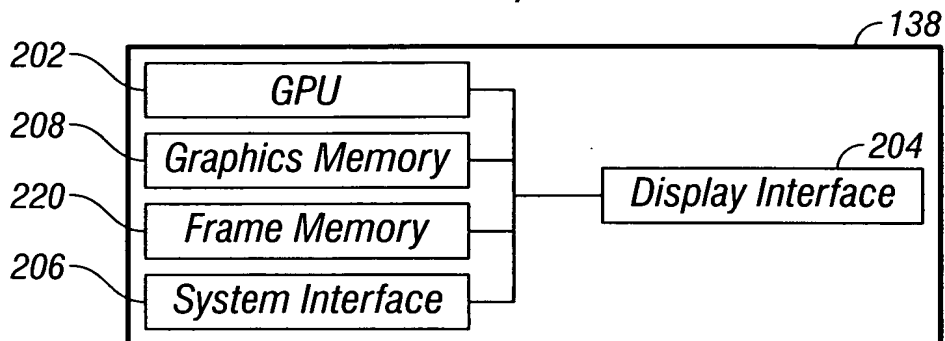ATTORNEY: Dean Small PHONE: (314) 621-5070
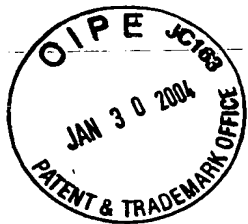
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FIG. 8

FIG. 9

1000

Beam Data Block — 902

$value_{00}, value_{10}, \ldots, value_{n0}$ — 1002
$value_{01}, value_{11}, \ldots, value_{n1}$
$\vdots$
$value_{0n}, value_{1n}, \ldots, (value_{nn}, alpha_{nn})$ — 1003

Vertex Data Block — 904

$(x_0, y_0, z_0), (u_0, v_0, w_0)$ — 1004
$(x_1, y_1, z_1), (u_1, v_1, w_1)$
$\vdots$
$(x_n, y_n, z_n), (u_{n1}, v_{n1}, w_{n1}), (u_{n2}, v_{n2}, w_{n2})$ — 1005

Rendering Parameters — 906

Viewpoint Definitions — 1006	Lightsource Definition — 1018
Pixel Rendering Data 1016 1008 $(value_0 \to alpha_0)$ $\vdots$ $(value_n \to alpha_n)$	Stereoscopic Viewpoint Definition — 1020
	Stereoscopic Viewpoint Definition — 1022

Vertex Data Index — 910

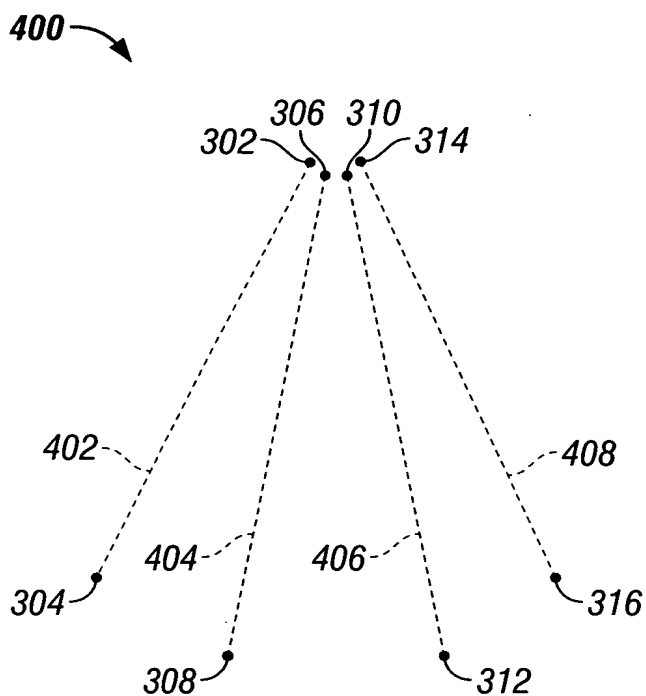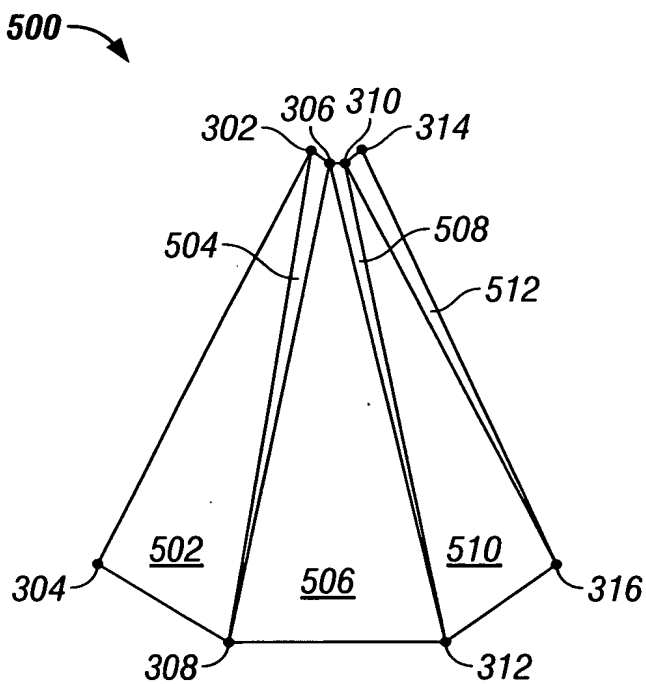| — 1010	— 1012	— 1014
$index_0,$	$index_0,$	$index_0,$
$index_1$	$index_1$	$index_1$
$\vdots$	$\vdots$	$\vdots$
$index_n$	$index_m$	$index_p$

FIG. 10

TITLE: Methods and Systems for Graphics Processing in a Medical Imaging System
INVENTOR: Erik N. Steen
S/N: 10/ 719,773 DOCKET: 135273 (AT 12553-01042)
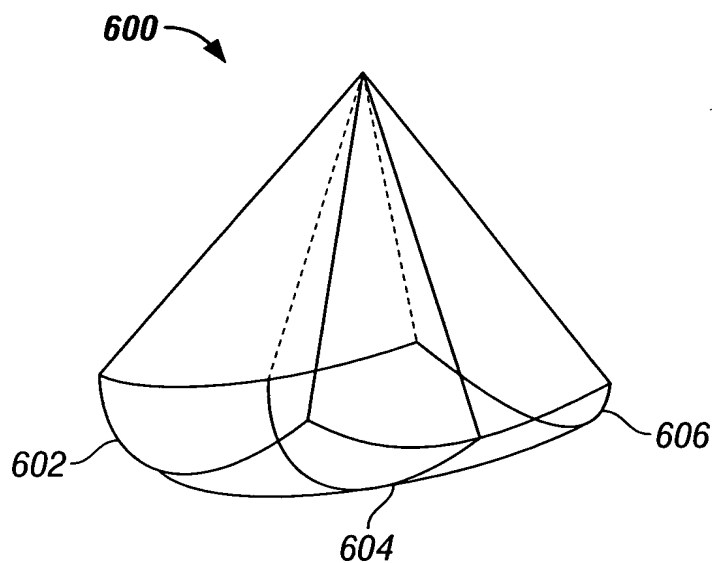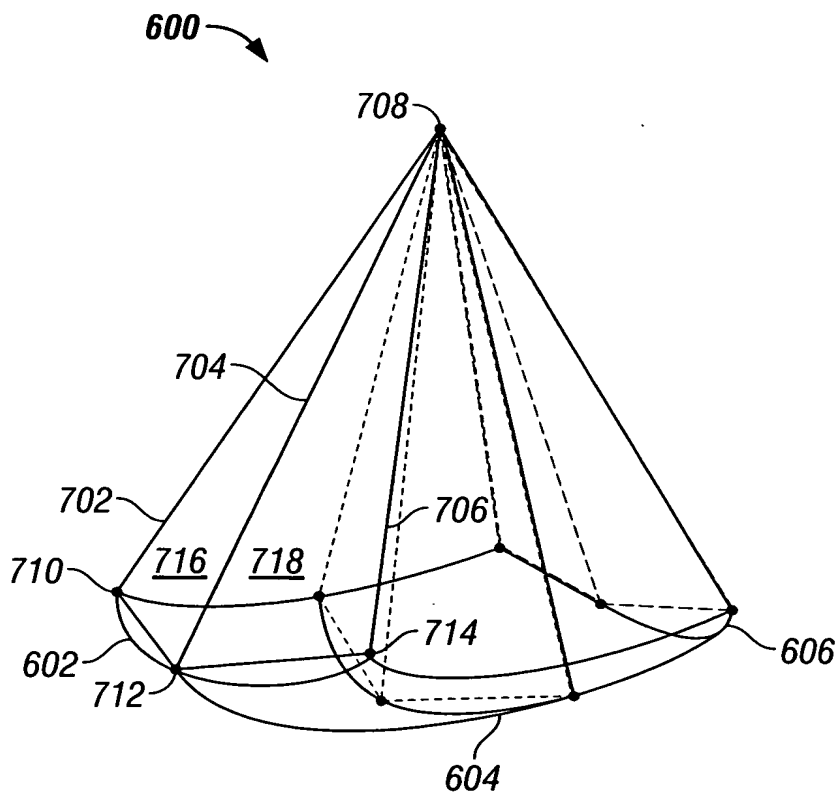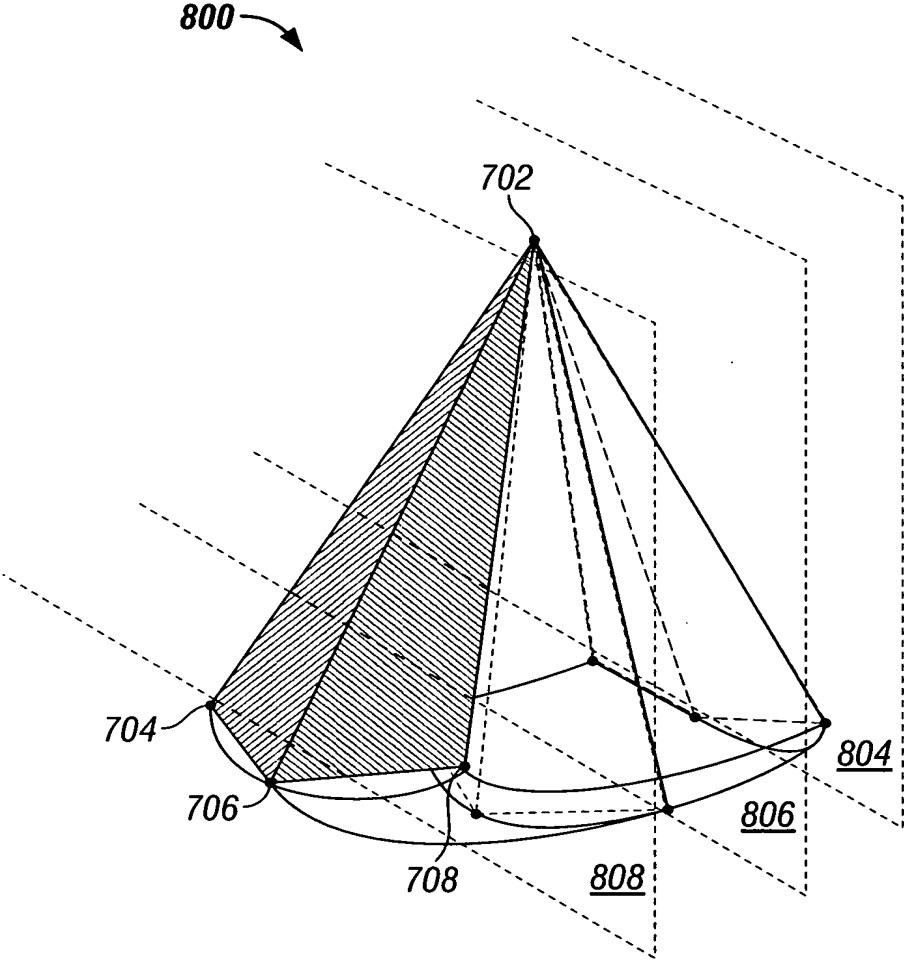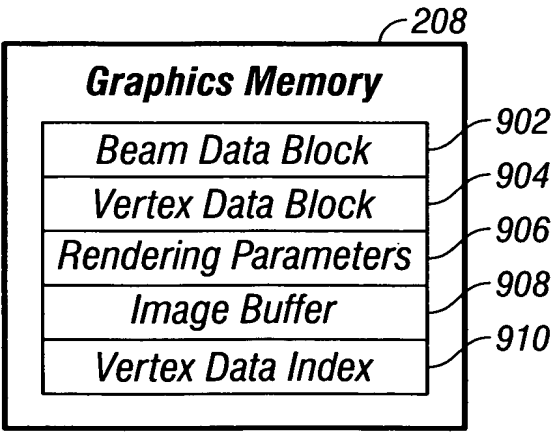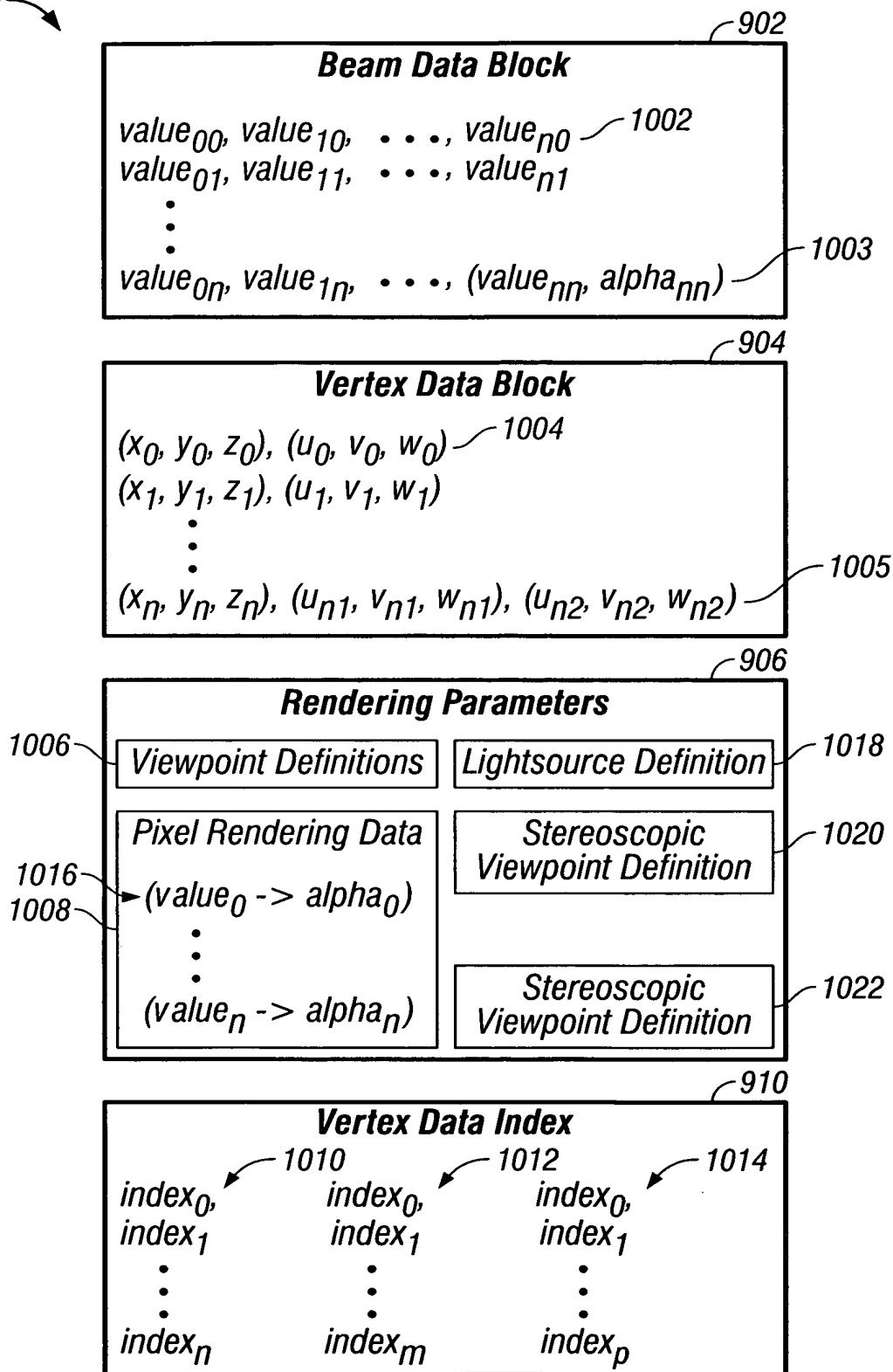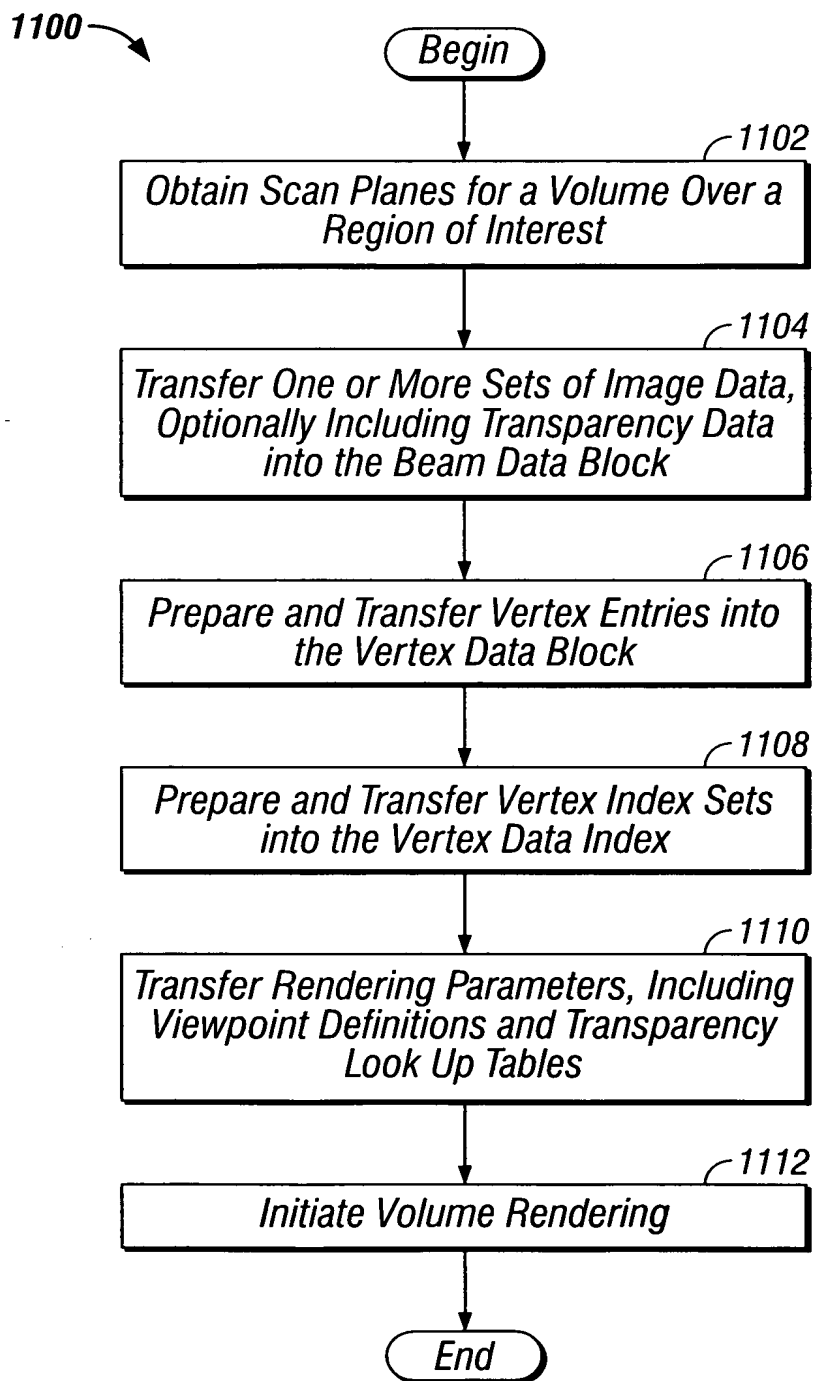ATTORNEY: Dean Small PHONE: (314) 621-5070

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1100

(Begin)

1102
Obtain Scan Planes for a Volume Over a
Region of Interest

1104
Transfer One or More Sets of Image Data,
Optionally Including Transparency Data
into the Beam Data Block

1106
Prepare and Transfer Vertex Entries into
the Vertex Data Block

1108
Prepare and Transfer Vertex Index Sets
into the Vertex Data Index

1110
Transfer Rendering Parameters, Including
Viewpoint Definitions and Transparency
Look Up Tables

1112
Initiate Volume Rendering

(End)

FIG. 11